

Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of the claims in the application. Please amend the claims as follows:

1. (Previously presented) A method for recycling expanded polystyrene comprising steps of:
reducing a volume of the expanded polystyrene by compression by an extruder to partially melt the expanded polystyrene without external heating;
dissolving the volume-reduced expanded polystyrene in a solvent;
evaporating the solvent to separate the solvent from the polystyrene by heating the dissolved polystyrene solution to a temperature of 200 °C or less so as to provide a polystyrene resin; and
extruding the polystyrene resin to produce an extruded product.
2. (Previously presented) The method according to Claim 1, further comprising a step of producing recycled expanded polystyrene from the extruded product.
3. (Canceled)
4. (Previously presented) The method according to Claim 1, wherein the solvent used in the dissolving step has a boiling point not greater than 150 °C.
5. (Currently amended) The method according to ~~[[claims]]~~ Claim 1, wherein the solvent used in the dissolving step is methylene chloride.
6. (Original) The method according to Claim 5, wherein the solvent further comprises unsaturated hydrocarbon having 5 to 7 carbon atoms and/or epoxide.

7. (Previously presented) The method according to any one of Claim 1, further comprising a step for transporting the volume-reduced expanded polystyrene to carry out the dissolving step at a location different from the volume reducing step.

8. (Previously presented) The method according to Claim 2, further comprising a step for transporting the extruded product after the evaporating and the extruding step to carry out the step of producing recycled expanded polystyrene product at a location different from where the evaporating and the extruding step.

9. (Previously presented) The method according to Claim 2, further comprising a step of impregnating the extrusion product with an expanding agent and a step for transporting the product after the evaporating and the extruding step to carry out the step of producing recycled expanded polystyrene product at a location different from the impregnating step.

10–14. (Canceled)

15. (Original) The method according to Claim 7, wherein the solvent used in the dissolving step has a boiling point not greater than 150 °C.

16. (Original) The method according to Claim 8, wherein the solvent used in the dissolving step has a boiling point not greater than 150 °C.

17. (Previously presented) The method according to Claim 1 wherein the evaporating and extruding step comprises:

providing the polystyrene solution with a separation and recovery apparatus of a polystyrene solution comprises a cylinder in which mixing shaft is disposed, wherein the mixing shaft comprising mixing impellers being adjacent each other in the shaft direction and being shifted in a circumferential direction;

preparing the polystyrene solution to advance in the cylinder while being heated to a temperature of 200 °C or less, so that the solvent is vaporized and separated from the polystyrene so as to provide a polystyrene resin; and
extruding the polystyrene resin to produce the extruded product.

18. (Previously presented) The method according to Claim 1 wherein the evaporating and extruding step comprises:

providing the polystyrene solution with a separation and recovery apparatus of a polystyrene solution comprising a cylinder comprising a first-stage cylinder member and a second-stage cylinder member; and an mixing shaft disposed in the first-stage cylinder member, comprising mixing impellers being adjacent each other in a shaft direction and being shifted in a circumferential direction, wherein the second-stage cylinder member comprising a screw shaft is disposed at right angles with the first-stage cylinder member.;

preparing the polystyrene solution to advance in the cylinder while being heated to a temperature of 200 °C or less, so that the solvent is vaporized and separated from the polystyrene so as to provide a polystyrene resin; and

extruding the polystyrene resin to produce the extruded product.

19. (Previously presented) The method according to Claim 1 wherein the evaporating and extruding step comprises:

providing the polystyrene solution with a separation and recovery apparatus of a polystyrene solution comprising a cylinder comprising a first-stage cylinder member, a second-stage cylinder member, and a third-stage cylinder member; an mixing shaft disposed in the first-stage cylinder member, comprising mixing impellers being adjacent each other in a shaft direction and being shifted in a circumferential direction, wherein the second-stage cylinder member comprising a screw shaft is disposed at right angles with the first-stage cylinder member, and the third-stage cylinder member comprising a screw shaft is disposed at right angles with the second-stage cylinder member;

preparing the polystyrene solution to advance in the cylinder while being heated to a temperature of 200 °C or less, so that the solvent is vaporized and separated from the polystyrene so as to provide a polystyrene resin; and
extruding the polystyrene resin to produce the extruded product.